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NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	OCT 04	Precision of EMBASE searching enhanced with new chemical name field
NEWS	3	OCT 06	Increase your retrieval consistency with new formats or for Taiwanese application numbers in CA/CAPLUS.
NEWS	4	OCT 21	CA/CAPLUS kind code changes for Chinese patents increase consistency, save time
NEWS	5	OCT 22	New version of STN Viewer preserves custom highlighting of terms when patent documents are saved in .rtf format
NEWS	6	OCT 28	INPADOCDB/INPAFAMDB: Enhancements to the US national patent classification.
NEWS	7	NOV 03	New format for Korean patent application numbers in CA/CAPLUS increases consistency, saves time.
NEWS	8	NOV 04	Selected STN databases scheduled for removal on December 31, 2010
NEWS	9	NOV 18	PROUSDDR and SYNTHLINE Scheduled for Removal December 31, 2010 by Request of Prous Science
NEWS	10	NOV 22	Higher System Limits Increase the Power of STN Substance-Based Searching
NEWS	11	NOV 24	Search an additional 46,850 records with MEDLINE backfile extension to 1946
NEWS	12	DEC 14	New PNK Field Allows More Precise Crossover among STN Patent Databases
NEWS	13	DEC 18	ReaxysFile available on STN
NEWS	14	DEC 21	CAS Learning Solutions -- a new online training experience
NEWS	15	DEC 22	Value-Added Indexing Improves Access to World Traditional Medicine Patents in CAPLUS
NEWS	16	JAN 24	The new and enhanced DPCI file on STN has been released
NEWS	17	JAN 26	Improved Timeliness of CAS Indexing Adds Value to USPATFULL and USPAT2 Chemistry Patents
NEWS	18	JAN 26	Updated MeSH vocabulary, new structured abstracts, and other enhancements improve searching in STN reload of MEDLINE
NEWS	19	JAN 28	CABA will be updated weekly
NEWS	20	FEB 23	PCTFULL file on STN completely reloaded
NEWS	21	FEB 23	STN AnaVist Test Projects Now Available for Qualified Customers
NEWS	22	FEB 25	LPCI will be replaced by LDPCI
NEWS	23	MAR 07	Pricing for SELECTing Patent, Application, and Priority Numbers in the USPAT and IFI Database Families is Now Consistent with Similar Patent Databases on STN

NEWS EXPRESS 17 DECEMBER 2010 CURRENT WINDOWS VERSION IS V8.4.2 .1,  
AND CURRENT DISCOVER FILE IS DATED 24 JANUARY 2011.

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 13:08:38 ON 28 MAR 2011

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Choice (Y/n):

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.46	0.46

FILE 'REGISTRY' ENTERED AT 13:09:50 ON 28 MAR 2011

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STRUCTURE FILE UPDATES: 27 MAR 2011 HIGHEST RN 1270808-54-2

DICTIONARY FILE UPDATES: 27 MAR 2011 HIGHEST RN 1270808-54-2

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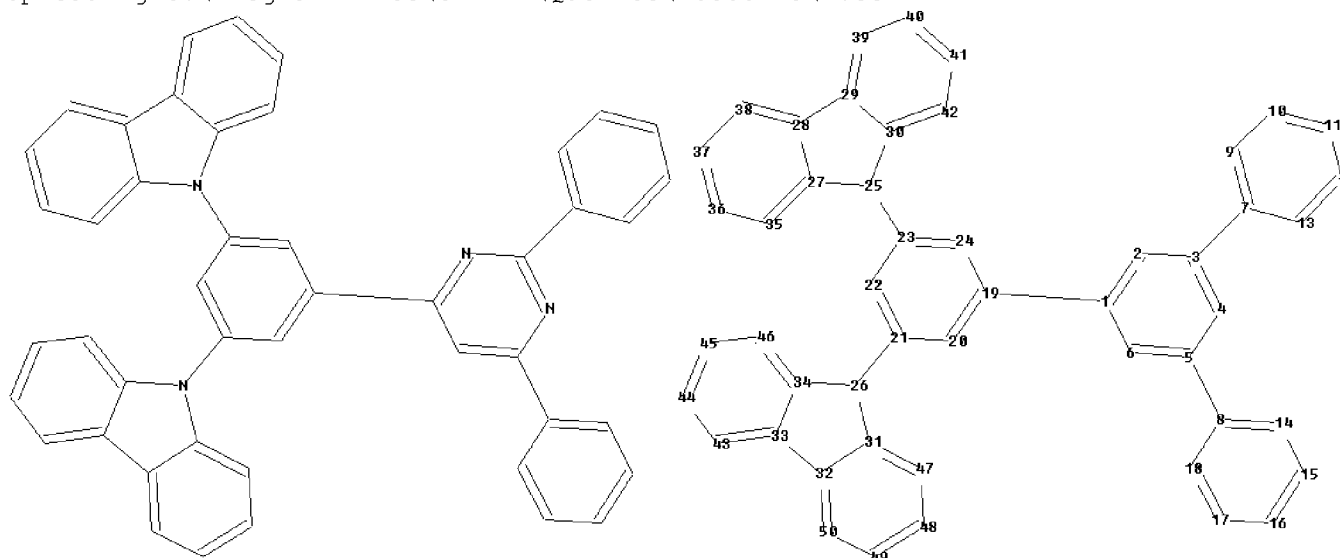
TSCA INFORMATION NOW CURRENT THROUGH January 14, 2011.

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<http://www.cas.org/support/stngen/stndoc/properties.html>

Uploading C:\Program Files\STNEXP\Queries\10588773\1.str

[illegible]

1-19    3-7    5-8    21-26    23-25

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15-16	16-17	17-18	19-20	19-24	20-21	21-22	22-23	23-24	25-27	25-30	26-31			
26-34	27-28													
27-35	28-29	28-38	29-30	29-39	30-42	31-32	31-47	32-33	32-50	33-34	33-43			
34-46	35-36													
36-37	37-38	39-40	40-41	41-42	43-44	44-45	45-46	47-48	48-49	49-50				

21-26    23-25    25-27    25-30    26-31    26-34    28-29    32-33

1-19    3-7    5-8

[illegible]

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11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
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22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom  
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42:Atom 43:Atom  
44:Atom 45:Atom 46:Atom 47:Atom 48:Atom 49:Atom 50:Atom

L1 STRUCTURE UPLOADED

=> s l1 sss full

FULL SEARCH INITIATED 13:10:06 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 160 TO ITERATE

100.0% PROCESSED 160 ITERATIONS

18 ANSWERS

SEARCH TIME: 00.00.01

L2 18 SEA SSS FUL L1

=> d l2 18

L2 ANSWER 18 OF 18 REGISTRY COPYRIGHT 2011 ACS on STN

RN 607740-09-0 REGISTRY

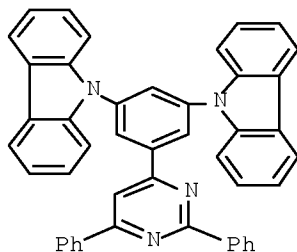
ED Entered STN: 22 Oct 2003

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA  
INDEX NAME)

MF C46 H30 N4

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

21 REFERENCES IN FILE CA (1907 TO DATE)

21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FIL REGISTRY

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

199.01

199.47

FILE 'REGISTRY' ENTERED AT 13:10:20 ON 28 MAR 2011

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STRUCTURE FILE UPDATES: 27 MAR 2011 HIGHEST RN 1270808-54-2  
DICTIONARY FILE UPDATES: 27 MAR 2011 HIGHEST RN 1270808-54-2

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TSCA INFORMATION NOW CURRENT THROUGH January 14, 2011.

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predicted properties as well as tags indicating availability of  
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=> SET TERMSET E#

SET COMMAND COMPLETED

=> DEL SEL Y

=> SEL L2 18 RN

E1 THROUGH E1 ASSIGNED

=> S E1/RN

L3 1 607740-09-0/RN

=> SET TERMSET LOGIN

SET COMMAND COMPLETED

=> FIL CAPLUS

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.61	200.08

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FILE COVERS 1907 - 28 Mar 2011 VOL 154 ISS 14  
FILE LAST UPDATED: 27 Mar 2011 (20110327/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2011  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2011

CAPLUS now includes complete International Patent Classification (IPC)  
reclassification data for the fourth quarter of 2010.

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This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> S L3

L4 21 L3

=> DIS L4 1 IBIB IABS

L4 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2011:268331 CAPLUS Full-text  
DOCUMENT NUMBER: 154:322544  
TITLE: Organic electroluminescent devices having high  
efficiency by optimizing the triplet energy of  
luminescent hosts, dopants and electron-transporting  
material to allow singlet exciton generation by  
collision and fusion of two triplet excitons  
INVENTOR(S): Nishimura, Kazuki; Kawamura, Yuichiro; Ogiwara,  
Toshinari; Kuma, Hitoshi; Fukuoka, Kenichi; Hosokawa,  
Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: U.S. Pat. Appl. Publ., 30pp., Cont.-in-part of U.S.  
Ser. No. 486,894.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20110049483	A1	20110303	US 2010-816030	20100615
US 20100314644	A1	20101216	US 2009-486894	20090618
PRIORITY APPLN. INFO.:			JP 2009-141347	A 20090612
			US 2009-486894	A2 20090618

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ABSTRACT:

Organic electroluminescent devices are described which comprise opposite anode and  
cathode, and a hole-transporting region, an emitting layer and an  
electron-transporting region in sequential order from the anode between the  
anode and the cathode, wherein the emitting layer includes a red emitting

portion, a green emitting portion, and a blue emitting portion; the blue emitting portion includes a host BH and a fluorescent dopant FBD; the triplet energy ETfbd of the fluorescent dopant FBD is larger than the triplet energy ETbh of the host BH; the green emitting portion includes a host GH and a phosphorescent dopant PGD; the electron-transporting region includes a common electron-transporting layer adjacent to the red emitting portion, the green emitting portion and the blue emitting portion; the common electron-transporting layer includes a material having a triplet energy ETel larger than ETbh; and the difference between the affinity of the host GH and the affinity of the material constituting the common electron-transporting layer is 0.4 eV or less. The organic electroluminescent devices have high efficiency by optimizing the triplet energy of luminescent hosts, dopants and electron-transporting material to allow singlet exciton generation by collision and fusion of two triplet excitons.

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION

FULL ESTIMATED COST

3.72	203.80
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION

CA SUBSCRIBER PRICE

-0.87	-0.87
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FILE COVERS 1907 - 28 Mar 2011 VOL 154 ISS 14

FILE LAST UPDATED: 27 Mar 2011 (20110327/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2011

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2011

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 12

L5

24 L2

=> d 15 ibib abs hitstr 1-

YOU HAVE REQUESTED DATA FROM 24 ANSWERS - CONTINUE? Y/(N):y

L5 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2011:268331 CAPLUS Full-text

DOCUMENT NUMBER: 154:322544

TITLE: Organic electroluminescent devices having high efficiency by optimizing the triplet energy of luminescent hosts, dopants and electron-transporting material to allow singlet exciton generation by collision and fusion of two triplet excitons

INVENTOR(S): Nishimura, Kazuki; Kawamura, Yuichiro; Ogiwara, Toshinari; Kuma, Hitoshi; Fukuoka, Kenichi; Hosokawa, Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 30pp., Cont.-in-part of U.S. Ser. No. 486,894.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20110049483	A1	20110303	US 2010-816030	20100615
US 20100314644	A1	20101216	US 2009-486894	20090618
PRIORITY APPLN. INFO.:			JP 2009-141347	A 20090612
			US 2009-486894	A2 20090618

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Organic electroluminescent devices are described which comprise opposite anode and cathode, and a hole-transporting region, an emitting layer and an electron-transporting region in sequential order from the anode between the anode and the cathode, wherein the emitting layer includes a red emitting portion, a green emitting portion, and a blue emitting portion; the blue emitting portion includes a host BH and a fluorescent dopant FBD; the triplet energy ETfbd of the fluorescent dopant FBD is larger than the triplet energy ETbh of the host BH; the green emitting portion includes a host GH and a phosphorescent dopant PGD; the electron-transporting region includes a common electron-transporting layer adjacent to the red emitting portion, the green emitting portion and the blue emitting portion; the common electron-transporting layer includes a material having a triplet energy ETel larger than ETbh; and the difference between the affinity of the host GH and the affinity of the material constituting the common electron-transporting layer is 0.4 eV or less. The organic electroluminescent devices have high efficiency by optimizing the triplet energy of luminescent hosts, dopants and electron-transporting material to allow singlet exciton generation by collision and fusion of two triplet excitons.

IT 607740-09-0

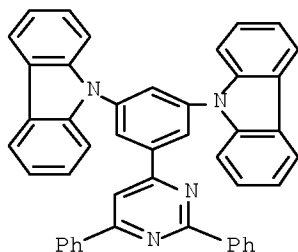
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(green-emitting layer host; OLED having high efficiency by optimizing the triplet energy of luminescent hosts, dopants and electron-transporting material to allow singlet exciton generation by collision and fusion of two triplet excitons)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)





L5 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2011:142123 CAPLUS Full-text  
 DOCUMENT NUMBER: 154:170452  
 TITLE: Organic electroluminescent element  
 INVENTOR(S): Ise, Toshihiro; Kitamura, Tetsu; Watanabe, Toru;  
 Takeda, Akira; Tonosaki, Keiju  
 PATENT ASSIGNEE(S): Fujifilm Corporation, Japan  
 SOURCE: PCT Int. Appl., 128pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2011013783	A1	20110203	WO 2010-JP62859	20100729
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

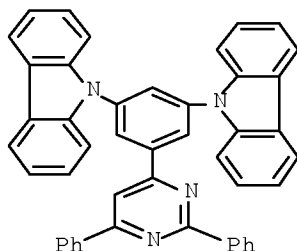
PRIORITY APPLN. INFO.: JP 2009-180223 A 20090731  
 JP 2009-201155 A 20090831  
 JP 2009-221663 A 20090925

AB Disclosed is an organic electroluminescent element having excellent light emission characteristics and excellent durability, wherein chromaticity change is suppressed when the organic electroluminescent element is driven at high temps. The organic electroluminescent element comprises, on a substrate, a pair of electrodes and a light-emitting layer arranged between the electrodes, and was characterized in that the light-emitting layer contains a compound (Cz)p-L-(A)q [Cz = (un)substituted arylcarbazolyl or carbazolylaryl; L = single bond, (un)substituted arylene, cycloalkylene or aromatic heterocycle; A = (un)substituted N-containing six-membered aromatic heterocycle; p, q = integer of 1-6] and a specific metal complex.

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
 (organic electroluminescent element)

RN 607740-09-0 CAPLUS  
CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA  
INDEX NAME)



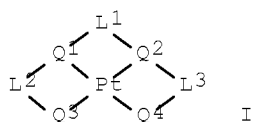
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2011:139719 CAPLUS Full-text  
DOCUMENT NUMBER: 154:170449  
TITLE: Organic electroluminescent element  
INVENTOR(S): Kitamura, Tetsu; Watanabe, Toru; Hayashi, Masayuki;  
Ise, Toshihiro  
PATENT ASSIGNEE(S): Fujifilm Corporation, Japan  
SOURCE: PCT Int. Appl., 121pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2011013830	A1	20110203	WO 2010-JP62961	20100730
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RW:	AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: JP 2009-180222 A 20090731  
JP 2009-201157 A 20090831

GI



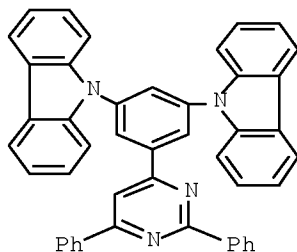
AB Disclosed is an organic electroluminescent element which is able to be driven at low voltage and exhibits high efficiency and excellent durability, while having small chromaticity change when driven at high temps. The organic electroluminescent element comprises, on a substrate, a pair of electrodes and at least one organic layer arranged between the electrodes and including a light-emitting layer, and was characterized in that one organic layer contains a compound (Cz)p-L-(A)q [Cz = (un)substituted arylcarbazolyl or carbazolylaryl; L = single bond, (un)substituted arylene, cycloalkylene or aromatic heterocycle; A = (un)substituted N-containing six-membered aromatic heterocycle; p, q = integer of 1 - 6.] and the light-emitting layer contains a phosphorescent material I [Q1-4 = ligand coordinated to Pt; L1-3 = single bond or divalent linking group].

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(organic electroluminescent element)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2010:1568869 CAPLUS Full-text

DOCUMENT NUMBER: 154:52863

TITLE: Organic electroluminescent device

INVENTOR(S): Nishimura, Kazuki; Kawamura, Yuichiro; Ogiwara, Toshinari; Kuma, Hitoshi; Fukuoka, Kenichi; Hosokawa, Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 59pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2010143434	A1	20101216	WO 2010-JP3869	20100610
<p>W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW</p> <p>RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM</p>				

PRIORITY APPLN. INFO.:

JP 2009-141347

A 20090612

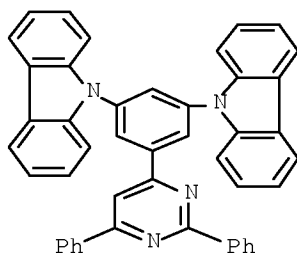
AB Disclosed is an organic electroluminescent device provided with a hole transport band, a light-emitting layer, and an electron transport band in said order from the anode side between an anode and cathode that face each other, wherein: the light-emitting layer is formed with a red light-emitting layer, a green light-emitting layer, and a blue light emitting layer; the blue light emitting layer comprises a host (BH) and a fluorescent dopant (FBD), and the triplet energy (ET fbd) of the fluorescent dopant (FBD) is greater than the triplet energy (ET bh) of the host (BH); the green light-emitting layer comprises a host (GH) and a phosphorescent dopant (PGD); a common electron transport layer that abuts the red light-emitting layer, the green light-emitting layer, and the blue light-emitting layer is positioned within the electron transport band, and the triplet energy (ET el) of the material that constitutes the electron transport layer is greater than the triplet energy (ET bh); and the affinity difference between the host (GH) and the material that constitutes the electron transport layer does not exceed 0.4 eV.

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(host material; organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2010:1487979 CAPLUS Full-text  
DOCUMENT NUMBER: 153:654650

TITLE: Electron transport material for organic electroluminescent device  
 INVENTOR(S): Kitamura, Akira; Watanabe, Toru; Ise, Toshihiro; Takizawa, Hiroo  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Tokkyo Koho, 104pp.  
 CODEN: JTXXFF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 4590020	B1	20101201	JP 2010-107586	20100507
WO 2011013681	A1	20110203	WO 2010-JP62647	20100727
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: JP 2009-180226 A 20090731  
 JP 2009-201158 A 20090831  
 JP 2010-107586 A 20100507

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

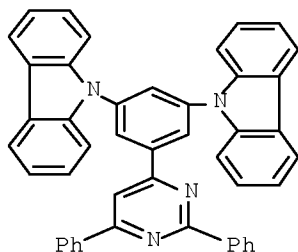
AB The invention relates to an electron transport material for an organic electroluminescent device, comprising the substance represented by I, wherein the halide impurities represented by II and III are contained  $\leq 0.1\%$  [A1 and A2 = N, CH and CR [R = substituent]; L, L' and L'' = single bond, arylene, cycloalkylene and heterocyclic ring; R1-R5 = halo, alkyl, aryl, aromatic heterocyclic ring, adamantyl, cyano, silyl, and carbazolyl; n1-n3 = 0-4 integer; n4 and n5 = 0-5 integer; p and q = 1-4 integer; X1 and X2 = halogen atom].

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
 (electron transport material for organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)

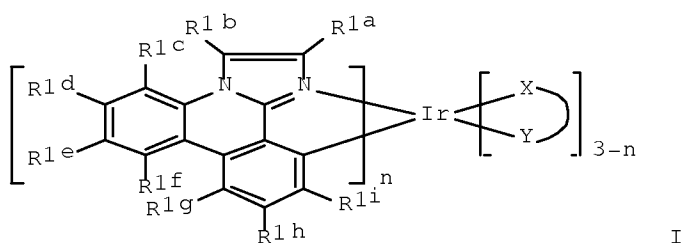


L5 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2010:993028 CAPLUS Full-text  
 DOCUMENT NUMBER: 153:299201  
 TITLE: Organic electroluminescent device  
 INVENTOR(S): Ise, Toshihiro; Kitamura, Akira; Takada, Saki;  
 Watanabe, Toru  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Tokkyo Koho, 61pp.  
 CODEN: JTXXFF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 4523992	B1	20100811	JP 2009-221664	20090925
JP 2011049511	A	20110310		
WO 2011013859	A1	20110203	WO 2010-JP63434	20100730
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: JP 2009-180225 A 20090731  
 JP 2009-221664 A 20090925

OTHER SOURCE(S): MARPAT 153:299201  
 GI



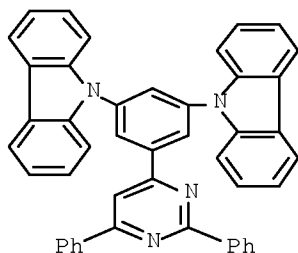
AB The invention refers to an organic electroluminescent device comprising an Ir complex I [R1a-li = H, or hydrocarbon; X-Y = mono-ionic bidentate ligand; n = 3] in the luminescent layer, and a compound II [X4,5 = N or C, so that the ring containing X4 and X5 forms a pyridine or pyrimidine; ':' = single bond, phenylene or biphenylene; R1-5 = F, tert-Bu, Ph, cyano, triphenylsilyl or carbazolyl; n1 - n5 = 0 or 1; p', q' = 1 or 2] an organic layer between the luminescent layer and the cathode.

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA  
INDEX NAME)



L5 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2010:672544 CAPLUS Full-text

DOCUMENT NUMBER: 153:51139

TITLE: Organic electroluminescence devices provided with triphenylpyridine or triphenylpyrimizin derivatives

INVENTOR(S): Ise, Toshihiro; Kitamura, Akira; Watanabe, Toru; Takeda, Rei; Tozaki, Keiki

PATENT ASSIGNEE(S): Fujifilm Corporation, Japan

SOURCE: Jpn. Tokkyo Koho, 57pp.

CODEN: JTXXFF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 4474493 B1 20100602 JP 2009-221665 20090925  
 JP 2011049512 A 20110310  
 WO 2011013843 A1 20110203 WO 2010-JP63132 20100728

W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,  
 CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,  
 ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE,  
 KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,  
 ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG,  
 PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY,  
 TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW  
 RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR,  
 HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE,  
 SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
 NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ,  
 TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2009-180224 A 20090731  
 JP 2009-221665 A 20090925

OTHER SOURCE(S): MARPAT 153:51139  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The electroluminescent layer bound between electrodes on a substrate in the title organic electroluminescent devices contains (1) triphenylpyridine or triphenylpyrimidin derivs. [I: X4,5 = N or C to form pyridine or pyrimidine ring; L' = bond, phenylene; R1-5 = F, Me, Ph, cyano, pyridyl, pyrimidyl, silyl, carbazolyl, tert-butyl; n1.apprx.n5 = 0,1; p,q = 1,2] and (2) Ir bisphenylpyridine acetylacetonate or picolinate derivs. [II: R3' = alkyl; R4'.apprx.R6' = H, alkyl, alkenyl, heteroalkyl, aryl, heteroaryl, R5' and R6' may be bonded to form aryl; R5 = (nonarom.-substd.) aryl, (nonarom.-substd.) heteroaryl; nonarom. = alkyl, alkoxyl, F, cyano, alkylamine, diarylamino; R3, R4, R6 = H, alkyl; R = H, alkyl, alkenyl, alkynyl, heteroalkyl, aryl, heteroaryl; heteroalkyl = alkyl substd. on its  $\geq 1$  C with O, N, or S; (X-Y) = acetylacetonate, picolinate; m = 2; n = 1]. The composition of the organic electroluminescent materials gives the EL devices excellent luminescent characteristics and stable coloring in high temperature operation.

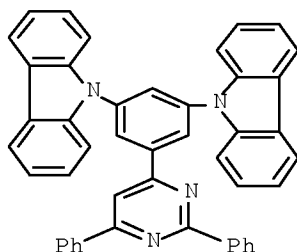
IT 607740-09-0 1228338-96-2 1228338-98-4

RL: PRPH (Prophetic); PRP (Properties)

(organic host material in electroluminescent layer; organic electroluminescence devices provided with triphenylpyridine or triphenylpyrimidin derivs.)

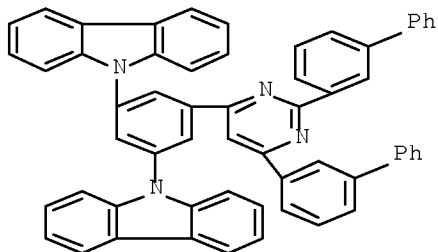
RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)

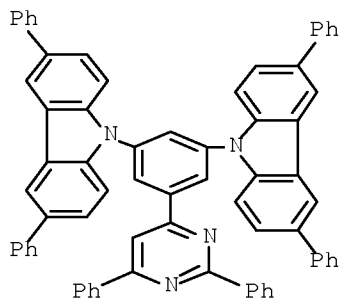




RN 1228338-96-2 CAPLUS  
CN INDEX NAME NOT YET ASSIGNED



RN 1228338-98-4 CAPLUS  
CN INDEX NAME NOT YET ASSIGNED



L5 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2009:1168797 CAPLUS Full-text  
DOCUMENT NUMBER: 151:392278  
TITLE: Organic electroluminescent device  
INVENTOR(S): Kawamura, Yuichiro; Hosokawa, Chishio; Ikeda, Kiyoshi  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 125pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2009218547	A	20090924	JP 2008-178500	20080708
PRIORITY APPLN. INFO.:			JP 2008-34970	A 20080215
OTHER SOURCE(S):	MARPAT 151:392278			

AB The invention relates to an organic electroluminescent device, comprising an interface layer, a hole transport layer, and an electroluminescent layer,

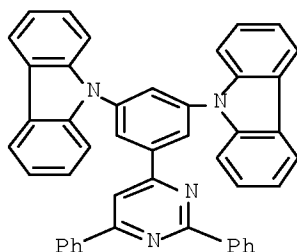
stacked in that order on an anode, wherein the hole transport layer comprises the compound containing an N-bonded aryl group, and the interface layer comprises the compound selected from naphthacene derivs. having 1-3 substituents at 5, 6, 11, or 12 positions, pentacene derivs. having 1-5 substituents at 5, 6, 7, 12, 13, or 14 positions, chrysene derivs., and benzoanthracene derivs.

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA  
INDEX NAME)



L5 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2009:1047890 CAPLUS Full-text

DOCUMENT NUMBER: 151:314637

TITLE: Heteroatom-containing aromatic polymer and organic electroluminescent device therewith

INVENTOR(S): Toba, Masahiko; Kato, Tsuyoshi

PATENT ASSIGNEE(S): Showa Denko K.K., Japan

SOURCE: PCT Int. Appl., 88pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

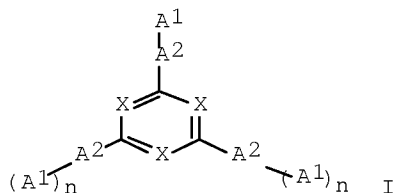
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009104708	A1	20090827	WO 2009-JP52955	20090220
W:	AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
KR 2010114545	A	20101025	KR 2010-7021123	20090220
EP 2246370	A1	20101103	EP 2009-713629	20090220

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,  
IE, IS, IT, LI, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE,  
SI, SK, TR, AL, BA, RS

US 20100327738 A1 20101230 US 2010-918742 20100820  
PRIORITY APPLN. INFO.: JP 2008-41902 A 20080222  
WO 2009-JP52955 W 20090220

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT  
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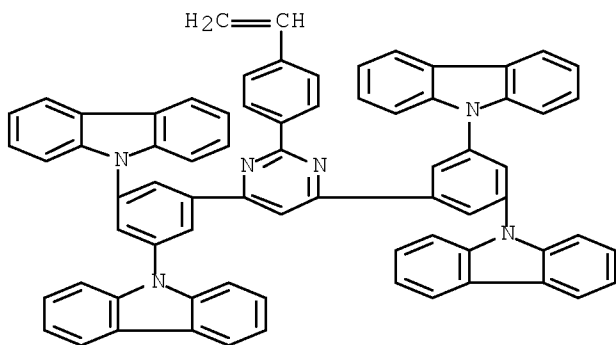
AB Disclosed is a polymer material which enables achievement of an organic EL device having low driving voltage and high durability when used in the organic EL device. The polymer contains a structural unit derived from a monomer represented by formula I, wherein A1 = a condensed polycyclic aromatic group optionally containing a heteroatom as a ring-constituting atom; the condensed polycyclic aromatic group is bonded to A2 at the meta position; A2 = a six-membered aromatic group optionally containing a heteroatom as a ring-constituting atom; at least one of A1 or A2 has a substituent having a polymerizable functional group; at least one of X = N; and n = 1 or 2.

IT 1184706-98-6DP, polymers 1184707-06-9DP, polymers  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(heteroatom-containing aromatic polymer and organic electroluminescent device

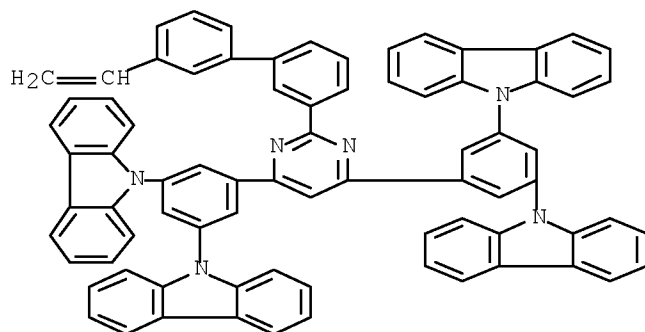
therewith)

RN 1184706-98-6 CAPLUS

CN 9H-Carbazole, 9,9',9'',9'''-[2-(4-ethenylphenyl)-4,6-pyrimidinediyl]di-5,1,3-benzenetriyl]tetrakis- (CA INDEX NAME)



RN 1184707-06-9 CAPLUS  
 CN 9H-Carbazole, 9,9',9'',9'''-[[2-(3'-ethenyl[1,1'-biphenyl]-3-yl)-4,6-pyrimidinediyl]di-5,1,3-benzenetriyl]tetrakis- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)  
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2009:828442 CAPLUS Full-text  
 DOCUMENT NUMBER: 151:135296  
 TITLE: Fluoranthene derivative-utilized organic electroluminescent devices showing long service life and low drive voltage  
 INVENTOR(S): Kawamura, Yuichiro; Saito, Hiroyuki; Mizuki, Yumiko  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 152pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2009152529	A	20090709	JP 2008-178499	20080708
PRIORITY APPLN. INFO.:			JP 2007-307348	A 20071128

OTHER SOURCE(S): MARPAT 151:135296

AB The title devices have interface-improving layers, hole-transporting layers, and emitting layers between anodes and cathodes, where the interface-improving layers comprise fluoranthene derivs. and may satisfy thickness of  $\leq 20$  nm. The fluoranthene derivs. show high planarity and thus showing excellent adhesion to anodes, and give improved stability to anode-side regions resulting in long life and low drive voltage.

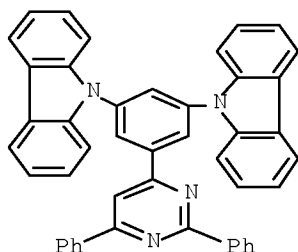
IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
 (emitting layers; fluoranthene derivative-utilized organic electroluminescent

devices showing long service life and low drive voltage)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



L5 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2009:828397 CAPLUS Full-text  
 DOCUMENT NUMBER: 151:136198  
 TITLE: Organic electroluminescence device using indenoperylene derivative  
 INVENTOR(S): Kawamura, Yuichiro; Saito, Hiroyuki; Ikeda, Kiyoshi  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 121pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2009152528	A	20090709	JP 2008-178498	20080708
PRIORITY APPLN. INFO.:			JP 2007-307347	A 20071128
OTHER SOURCE(S):	MARPAT 151:136198			
GI				

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

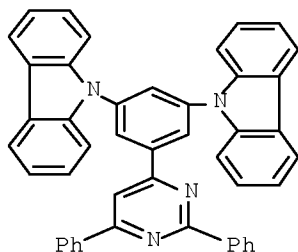
AB The invention relates to an organic electroluminescent device comprising an interface-improving layer, a hole transport layer, and electroluminescent layer, fabricated in that order between an anode and a cathode, wherein the interface-improving layer contains an indenoperylene represented by I or II [R1-20 = H, C6-50 aromatic residues, heteroarom. residues containing 5-50 atoms, and C1-50 alkyl].

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
 (organic electroluminescence device using indenoperylene derivative)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



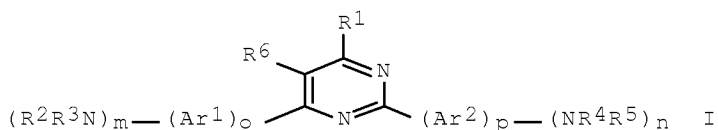
L5 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2009:296481 CAPLUS Full-text  
 DOCUMENT NUMBER: 150:362376  
 TITLE: Material for organic photoelectric device, and organic photoelectric device including the same  
 INVENTOR(S): Kim, Nam-Soo; Yu, Eun-Sun; Kim, Young-Hoon; Chae, Mi-Young  
 PATENT ASSIGNEE(S): Cheil Industries Inc., S. Korea  
 SOURCE: PCT Int. Appl., 53pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009031855	A1	20090312	WO 2008-KR5263	20080905
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
KR 2009024998	A	20090310	KR 2007-90015	20070905
CN 101784635	A	20100721	CN 2008-80104151	20100224
US 20100163857	A1	20100701	US 2010-659356	20100305
PRIORITY APPLN. INFO.:			KR 2007-90015	A 20070905
			WO 2008-KR5263	W 20080905

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 150:362376

GI



AB The present invention provides a phosphorescent light emitting material I [Ar<sup>1,2</sup> = (un)substituted C<sub>6-30</sub> aryl or arylene; (un)substituted C<sub>1-30</sub> alkyl or alkylene; (un)substituted C<sub>2-30</sub> heteroaryl or heteroarylene; R<sup>1,6</sup> = (un)substituted C<sub>6-30</sub> aryl, C<sub>2-30</sub> heteroaryl, C<sub>1-30</sub> alkyl; R<sup>2,5</sup> = H, (un)substituted C<sub>6-30</sub> aryl or arylene, C<sub>2-30</sub> heteroaryl or heteroarylene, C<sub>1-30</sub> alkyl or alkylene; R<sup>2,3</sup> and R<sup>4,5</sup> may be fused together to form a ring; m,n = integers 0 - 3, m + n = 1 - 6, o, p = integers 0 - 2, o + p = 1 - 4] for an organic photoelec. device having thermal stability due to a glass transition temperature (T<sub>g</sub>) of 120° or more and a thermal decomposition temperature (T<sub>d</sub>) of 400° or more, and being capable of realizing a high efficiency organic photoelec. device. The material may be used singularly or as a host material in combination with a dopant, and includes a sym. or asym. bipolar organic compound including both a hole transporting unit and an electron transporting unit. An organic photoelec. device including the material can also be provided. The material for an organic photoelec. device can provide an organic photoelec. device having high luminous efficiency at a low driving voltage.

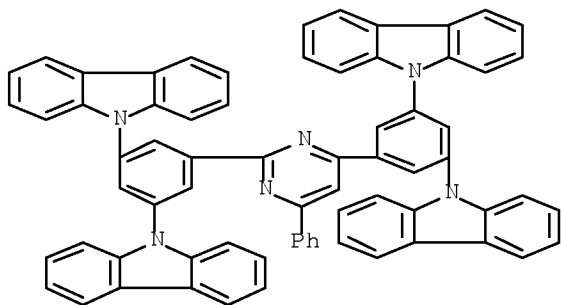
IT 1131761-99-3P 1131762-01-0P 1131762-03-2P  
 1131762-05-4P 1131762-07-6P 1131762-09-8P  
 1131762-11-2P 1131762-13-4P 1131762-15-6P  
 1131762-17-8P 1131762-19-0P 1131762-21-4P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(material for organic photoelec. device, and organic photoelec. device including the same)

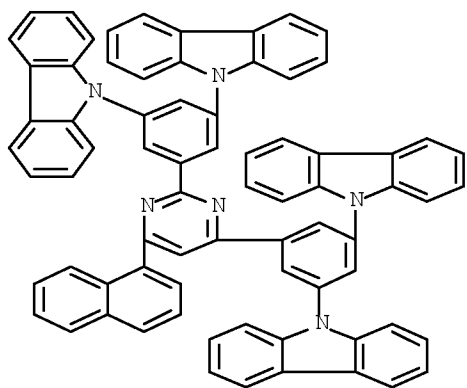
RN 1131761-99-3 CAPLUS

CN 9H-Carbazole, 9,9',9'',9'''-[ (6-phenyl-2,4-pyrimidinediyl)di-5,1,3-benzenetriyl]tetrakis- (CA INDEX NAME)



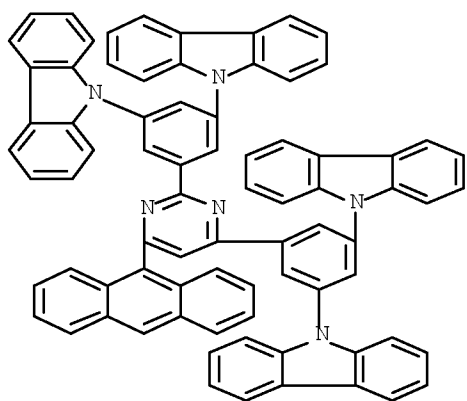
RN 1131762-01-0 CAPLUS

CN 9H-Carbazole, 9,9',9'',9'''-[ [6-(1-naphthalenyl)-2,4-pyrimidinediyl]di-5,1,3-benzenetriyl]tetrakis- (CA INDEX NAME)



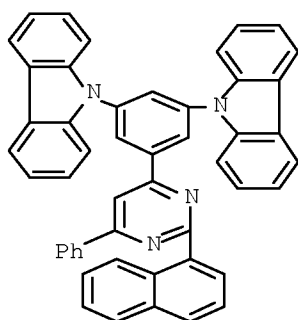
RN 1131762-03-2 CAPLUS

CN 9H-Carbazole, 9,9',9'',9'''-[6-(9-anthracenyl)-2,4-pyrimidinediyl]di-5,1,3-benzenetriyl]tetrakis- (CA INDEX NAME)



RN 1131762-05-4 CAPLUS

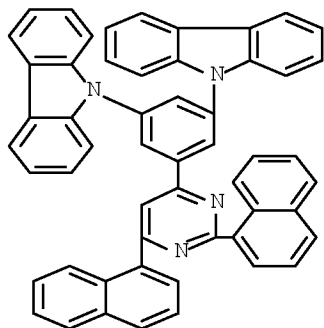
CN 9H-Carbazole, 9,9'-[5-[2-(1-naphthalenyl)-6-phenyl-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)





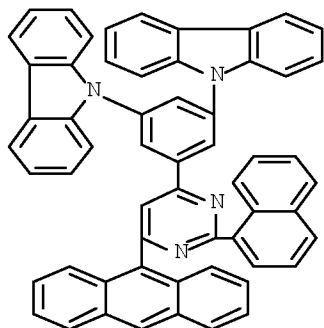
RN 1131762-07-6 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-di-1-naphthalenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



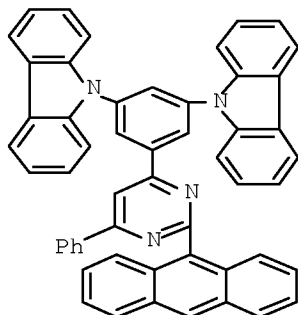
RN 1131762-09-8 CAPLUS

CN 9H-Carbazole, 9,9'-[5-[6-(9-anthracenyl)-2-(1-naphthalenyl)-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)



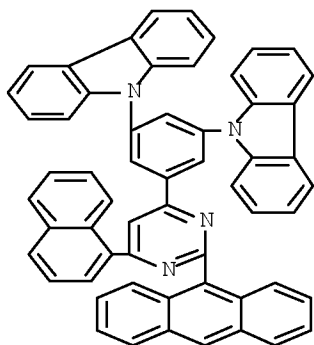
RN 1131762-11-2 CAPLUS

CN 9H-Carbazole, 9,9'-[5-[2-(9-anthracenyl)-6-phenyl-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)



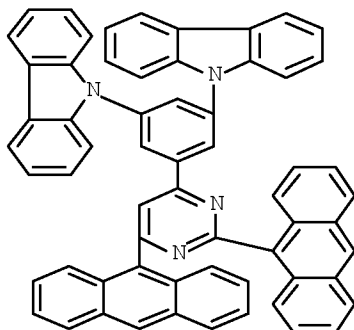
RN 1131762-13-4 CAPLUS

CN 9H-Carbazole, 9,9'-[5-[2-(9-anthracenyl)-6-(1-naphthalenyl)-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)



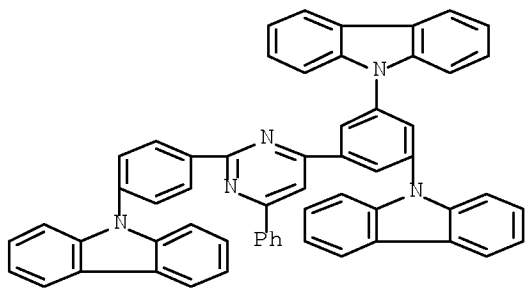
RN 1131762-15-6 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-di-9-anthracenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



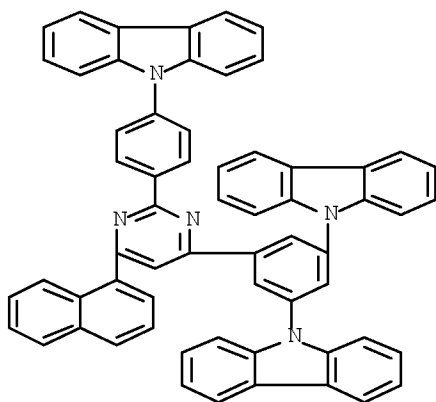
RN 1131762-17-8 CAPLUS

CN 9H-Carbazole, 9,9'-[5-[2-[4-(9H-carbazol-9-yl)phenyl]-6-phenyl-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)



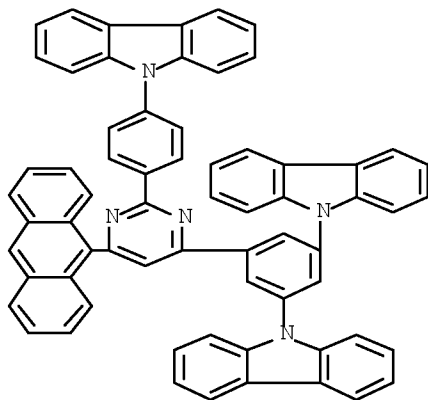
RN 1131762-19-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-[2-[4-(9H-carbazol-9-yl)phenyl]-6-(1-naphthalenyl)-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)



RN 1131762-21-4 CAPLUS

CN 9H-Carbazole, 9,9'-[5-[6-(9-anthracenyl)-2-[4-(9H-carbazol-9-yl)phenyl]-4-pyrimidinyl]-1,3-phenylene]bis- (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2008:1247342 CAPLUS Full-text  
DOCUMENT NUMBER: 149:458120  
TITLE: Organic electroluminescent device  
INVENTOR(S): Nishimura, Kazuki; Iwakuma, Toshihiro; Fukuoka, Kenichi; Jinde, Yukitoshi; Hosokawa, Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 131pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008123178	A1	20081016	WO 2008-JP55383	20080324
W:	AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 2133932	A1	20091216	EP 2008-722699	20080324
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR			
US 20100044689	A1	20100225	US 2009-532369	20090921
PRIORITY APPLN. INFO.:			JP 2007-77611	A 20070323
			WO 2008-JP55383	W 20080324

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

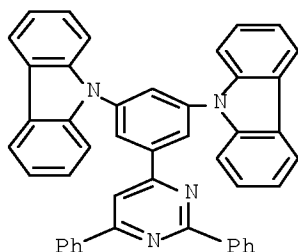
AB The invention relates to a phosphorescent light-emitting layers which contain a host for phosphorescence and a phosphorescent dopant for phosphorescence, while a fluorescent light-emitting layer contains a host for fluorescence and a fluorescent dopant for fluorescence. An electron blocking layer blocks electrons injected in the host for fluorescent of the fluorescent light-emitting layer from being injected into the electron blocking layer side from the fluorescent light-emitting layer, while allowing holes being injected into the fluorescent light-emitting layer from the phosphorescent light-emitting layers. The triplet energy gap EgPD of the dopant for phosphorescence of the phosphorescent light-emitting layers, the triplet energy gap EgEB of the electron blocking layer and the triplet energy gap EgFH of the host for fluorescence of the fluorescent light-emitting layer satisfy the following relation.  $EgPD < EgEB \leq EgFH$  (1).

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)  
 REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2008:773582 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 149:91175  
 TITLE: Organic electroluminescent devices including no optical defect and high luminance and efficiency  
 INVENTOR(S): Iwakuma, Toshihiro; Watanabe, Masami; Okuda, Fumio; Nishimura, Kazuki; Hosokawa, Chishio  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 22pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
JP 2008147424	A	20080626	JP 2006-332946	20061211
PRIORITY APPLN. INFO.:			JP 2006-332946	20061211
OTHER SOURCE(S):	MARPAT 149:91175			

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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The devices contain, in the layers adjacent to emitting layers, metal complexes I-IV [M = metal; R1 = H, alk(en)yl, alkynyl, (hetero)aryl, etc.; R2, R3, R8, R11, R12 = H, alkyl, aralkyl, CN, CF3, halo, etc.; J = R, CN, CF3, CO2R, etc. (R = H, halo, alk(en)yl, etc.); XY = chiral ligand, auxiliary ligand; e = 0-4; m, n ≥ 1; m + n = the maximum coordination number for M]. The layers adjacent to the emitting layers may be hole-, electron-, and/or exciton-blocking layers. The devices show long service life.

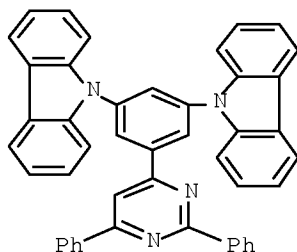
IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
 (emitting layers, host; organic electroluminescent devices including no optical defect and high luminance and efficiency)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA

INDEX NAME)



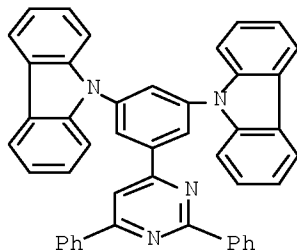
L5 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2008:733490 CAPLUS Full-text  
DOCUMENT NUMBER: 149:68051  
TITLE: Organic electroluminescent device  
INVENTOR(S): Iwakuma, Toshihiro; Watanabe, Masami; Okuda, Fumio;  
Nishimura, Kazuki; Hosokawa, Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 42pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2008072539	A1	20080619	WO 2007-JP73563	20071206
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
JP 2008147426	A	20080626	JP 2006-332952	20061211
PRIORITY APPLN. INFO.:			JP 2006-332952	A 20061211
OTHER SOURCE(S):	MARPAT 149:68051			

AB An organic electroluminescent device has at least an organic thin film layer having a light-emitting layer, which is sandwiched between the cathode and the anode. A layer in contact with the light-emitting layer contains a metallic complex compound having a specific structure and is preferably at least a single layer selected from a hole block layer, an electron block layer, and an exciton block layer. This provides the organic electroluminescent device having no pixel defects and having a high light-emitting efficiency even at a low voltage.

IT 607740-09-0  
RL: TEM (Technical or engineered material use); USES (Uses)

(organic electroluminescent devices containing organic light-emitting layers)  
 RN 607740-09-0 CAPLUS  
 CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2008:156813 CAPLUS Full-text  
 DOCUMENT NUMBER: 148:225226  
 TITLE: Organic electroluminescent device  
 INVENTOR(S): Iwakuma, Toshihiro; Arakane, Takashi; Arai, Hiromasa; Nagashima, Hideaki  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 71 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008015949	A1	20080207	WO 2007-JP64631	20070726
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 2053672	A1	20090429	EP 2007-791331	20070726
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS			
KR 2009051163	A	20090521	KR 2009-7002207	20090203
CN 101501880	A	20090805	CN 2007-80028996	20090203
US 20090243473	A1	20091001	US 2009-376236	20090306

PRIORITY APPLN. INFO.:

JP 2006-213761

A 20060804

WO 2007-JP64631

W 20070726

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

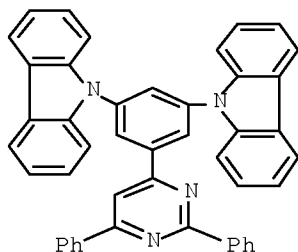
AB The invention relates to an organic electroluminescent device comprising a cathode, an anode, and an organic layer, which is formed between the cathode and the anode and includes at least a light-emitting layer and an electron transport layer. An electron transport material constituting the electron transport layer and having the slowest electron mobility has an electron mobility of  $2.0 \times 10^{-5}$  cm<sup>2</sup>/Vs or more at an elec. field intensity of 0.4 MV/cm to 0.5 MV/cm. When the ratio of the electron mobility to the hole mobility of a host material constituting the light-emitting layer is denoted by  $\Delta EM$  and the ratio of the electron mobility to the hole mobility of the electron transport material constituting the electron transport layer and having the slowest electron mobility is denoted by  $\Delta ET$ , the organic electroluminescence device satisfies the following relationships:  $\Delta ET > 1$ ,  $0.3 \leq \Delta EM \leq 10$ , and  $\Delta ET > \Delta EM$ .

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA  
INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(9 CITINGS)  
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2007:971415 CAPLUS Full-text

DOCUMENT NUMBER: 147:311076

TITLE: Organic electroluminescent device

INVENTOR(S): Iwakuma, Toshihiro; Matsuura, Masahide; Nagashima,  
Hideaki; Ikeda, Shuji; Nakamura, Hiroaki; Kusumoto,  
Tadashi

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

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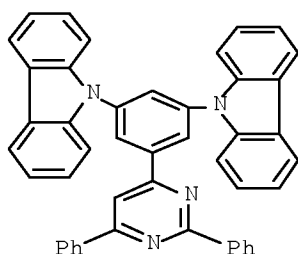
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JP 2007220721 A 20070830 JP 2006-36479 20060214  
 PRIORITY APPLN. INFO.: JP 2006-36479 20060214  
 AB The invention relates to an organic electroluminescent device, especially relates to a phosphorescent organic electroluminescent device, comprising a 1st layer, a 2nd layer, an active layer containing a ortho-metalated complex doped in a host material, and a cathode, stacked in that order on an anode, wherein the relationships represented by  $TD + 10 \text{ eV} \leq Th1$ ,  $TD + 0.10 \text{ eV} \leq Th2$ , and  $TD + 0.10 \text{ eV} \leq TH$  are satisfied, wherein the TD, Th1, Th,2 and TH are the lowest excited triplet state energy of ortho-metalated complex, the 1st layer material, the 2d layer material and the active layer host, resp., in order to realize the high quantum efficiency device.  
 IT 607740-09-0  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (organic electroluminescent device)  
 RN 607740-09-0 CAPLUS  
 CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)

L5 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2007:283495 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 146:337907  
 TITLE: Preparation of azafluoranthene derivatives as materials for organic electroluminescent derives  
 INVENTOR(S): Iwakuma, Toshihiro  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 61pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007029806	A1	20070315	WO 2006-JP317845	20060908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,  
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM

US 20080206597 A1 20080828 US 2007-931374 20071031  
US 7662487 B2 20100216

PRIORITY APPLN. INFO.:

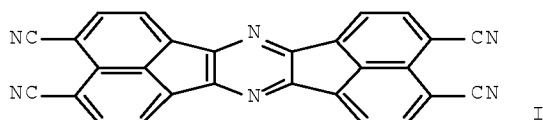
JP 2005-262288 A 20050909

WO 2006-JP317845 A1 20060908

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 146:337907

GI



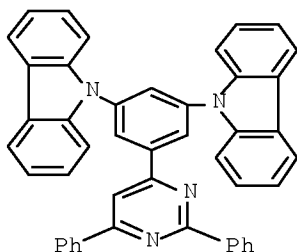
AB The invention aims at providing a novel azaarom. compound having an azafluoranthene skeleton which is useful as the constituent of organic EL devices and at realizing a long-life, high-efficiency, and practical organic EL device by using the compound in at least one of the organic compound layers. Twelve general structures having an azafluoranthene skeleton were claimed. For example, 5,6-dibromo-1,2-acenaphthylenedione was reacted with formamide, followed by the addition of CuCN in DMF to give I. Some of the title compds. were tested to have good EL efficiency.

IT 607740-09-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(preparation of azafluoranthene derivs. as materials for organic electroluminescent devices)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2006:632732 CAPLUS Full-text

DOCUMENT NUMBER: 145:103546

TITLE: Preparation of biscalbazole derivatives as  
charge-transporting materials, and organic  
electroluminescent elements

INVENTOR(S): Yabe, Masayoshi; Sato, Hideki

PATENT ASSIGNEE(S): Pioneer Corporation, Japan; Mitsubishi Chemical  
Corporation

SOURCE: PCT Int. Appl., 137 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

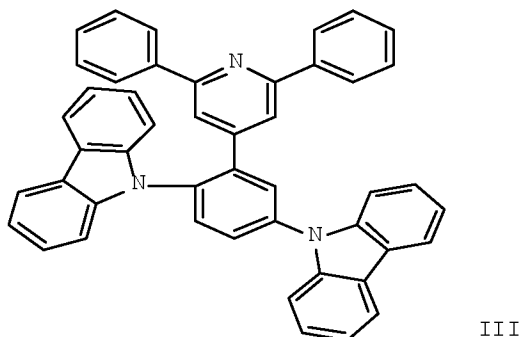
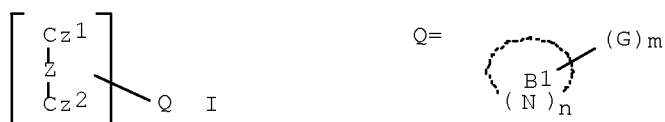
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006067976	A1	20060629	WO 2005-JP22635	20051209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2006199679	A	20060803	JP 2005-355790	20051209
EP 1829871	A1	20070905	EP 2005-814748	20051209
R: DE				
CN 101087776	A	20071212	CN 2005-80044718	20051209
KR 2007090952	A	20070906	KR 2007-7014364	20070622
US 20080145699	A1	20080619	US 2007-722760	20070625
US 20090191426	A2	20090730		

PRIORITY APPLN. INFO.: JP 2004-373981 A 20041224  
WO 2005-JP22635 W 20051209

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): CASREACT 145:103546; MARPAT 145:103546

GI



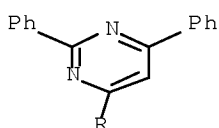
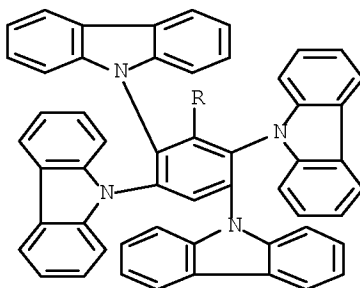
AB Organic compds. represented by the following formula [I; Cz1, Cz2 = carbazolyl; Z = a direct bond or any connecting group which enables the nitrogen atom of the carbazole ring in Cz1 to be conjugated with the nitrogen atom of the carbazole ring in Cz2; Q = a direct bond connected to G in the following formula Q1; ring B1 = a 6-membered aromatic heterocycle having n nitrogen atom(s) as a heteroatom, provided that n is an integer of 1-3; G is connected to Q, it is a direct bond or any connecting group which each is connected to Q; G is bonded to any of the carbon atoms located in the ortho and para positions to a nitrogen atom of the ring B1; when G is not connected to Q, it is an aromatic hydrocarbon group; m = an integer of 3-5] are prepared. These compds. combines excellent hole-transporting properties with excellent electron-transporting properties and has excellent long-term resistance to elec. oxidation/reduction and a high triplet excitation level. A charge-transporting material and an organic electroluminescent element which comprise or employ the organic compound I are also disclosed. Thus, aldol condensation of 2,5-difluorobenzaldehyde with acetophenone in a mixture of concentrated H2SO4 and THF at 35° for 7 h gave 1-phenyl-3-(2,5-difluorophenyl)-2-propen-1-one which underwent cyclocondensation with 1-phenacylpyridinium bromide and ammonium acetate in a mixture of AcOH and DMF under refluxing for 6 h to give 4-(2,5-difluorophenyl)-2,6-diphenylpyridine (II). Carbazole was treated with NaH in DMF at 80° for 60 min and condensed with II under refluxing for 3 h to give 4-[2,5-bis(carbazol-9-yl)phenyl]-2,6-diphenylpyridine (III). An electroluminescent device with a luminescent layer comprising III as a main component (host material) showed excellent life property (working life of 1.00 at 2.500 cd/m2).

IT 895147-10-1P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation of biscarbazole derivs. as charge-transporting materials, and organic electroluminescent elements)

RN 895147-10-1 CAPLUS

CN 9H-Carbazole, 9,9',9'',9'''-[3-(2,6-diphenyl-4-pyrimidinyl)-1,2,4,5-benzenetetrayl]tetrakis- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)  
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2005:984262 CAPLUS Full-text  
DOCUMENT NUMBER: 143:275345  
TITLE: Organic electroluminescent device  
INVENTOR(S): Iwakuma, Toshihiro; Yasuda, Hiroya; Ikeda, Kiyoshi;  
Yamamichi, Keiko; Arakane, Takashi; Hosokawa, Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 59 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005084083	A1	20050909	WO 2005-JP3384	20050301
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1722603	A1	20061115	EP 2005-719701	20050301

R: BE, DE, FR, GB, NL  
 CN 1926925 A 20070307 CN 2005-80006370 20050301  
 US 20070172698 A1 20070726 US 2006-588773 20060808  
 KR 2007004678 A 20070109 KR 2006-7017888 20060901  
 PRIORITY APPLN. INFO.: JP 2004-57048 A 20040302  
 WO 2005-JP3384 W 20050301

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

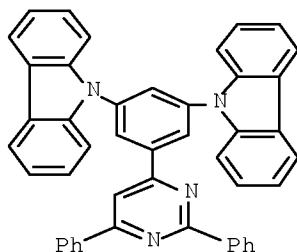
OTHER SOURCE(S): MARPAT 143:275345

AB Disclosed is an organic electroluminescent device where an organic thin film layer is interposed between a cathode and an anode which organic thin film layer is composed of one or more layers including a phosphorescent light-emitting layer containing at least a host material and a phosphorescent organic metal complex. The total of the mass concns. of halogen elements, namely bromine, iodine and chlorine contained as impurities in the host material constituting the light-emitting layer is not more than 50 ppm. This organic electroluminescent device has high luminance, high luminous efficiency and long life.

IT 607740-09-0P  
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITINGS)  
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2005:823992 CAPLUS Full-text  
 DOCUMENT NUMBER: 143:219260  
 TITLE: Organic electroluminescent device  
 INVENTOR(S): Matsuura, Masahide; Iwakuma, Toshihiro; Yamamichi, Keiko; Hosokawa, Chishio  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005076669	A1	20050818	WO 2005-JP1799	20050208
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1718121	A1	20061102	EP 2005-709851	20050208
R: BE, DE, FR, GB, NL				
CN 1918947	A	20070221	CN 2005-80004332	20050208
KR 2006114001	A	20061103	KR 2006-7015981	20060808
US 20070257600	A1	20071108	US 2007-588549	20070413
PRIORITY APPLN. INFO.:			JP 2004-32542	A 20040209
			WO 2005-JP1799	W 20050208

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

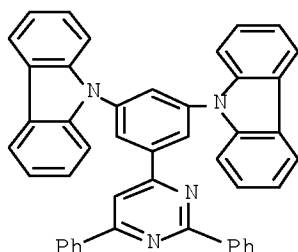
AB Disclosed is an organic EL device having a multilayer structure wherein at least a light-emitting layer and an electron transport layer are arranged between cathodes and an anode is characterized in that the host material constituting the light-emitting layer has a triplet energy gap (EgT) of not less than 2.52 eV and not more than 3.7 eV, an electron-transporting material constituting the electron transport layer is different from the host material and has a hole transporting ability, and the light-emitting layer further contains a metal complex compound having phosphorescence and containing a heavy metal.

IT 607740-09-0

RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent device)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT:	9	THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (19 CITINGS)
REFERENCE COUNT:	13	THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2004:634243 CAPLUS Full-text  
 DOCUMENT NUMBER: 141:182077

TITLE: Organic electroluminescence device showing high emission efficiency and extended service life for full color display

INVENTOR(S): Arakane, Takashi; Iwakuma, Toshihiro; Hosokawa, Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 55 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004066685	A1	20040805	WO 2004-JP236	20040115
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ				
EP 1589789	A1	20051026	EP 2004-702427	20040115
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1762182	A	20060419	CN 2004-80007699	20040115
CN 100493286	C	20090527		
JP 4580342	B2	20101110	JP 2005-508033	20040115
US 20060180806	A1	20060817	US 2005-542629	20050718
US 20090072732	A1	20090319	US 2008-289590	20081030
PRIORITY APPLN. INFO.:			JP 2003-16505	A 20030124
			WO 2004-JP236	W 20040115
			US 2005-542629	B1 20050718

# ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB An organic electroluminescence device has at least a hole-transport layer and a light-emitting layer made of a phosphorescent light-emitting material and a host material between a cathode and an anode. The triplet energy of the hole-transport material of the hole-transport layer is 2.52-3.70 eV. The hole mobility is 10<sup>-6</sup> cm<sup>2</sup>/Vs at an elec. field strength of 0.1-0.6 MV/cm. Thus an organic electroluminescence device using phosphorescence emission, exhibiting a high emission efficiency, and having a long life is provided.

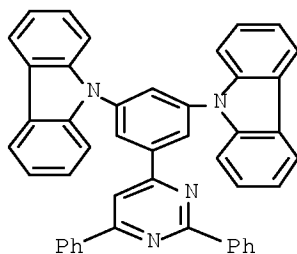
IT 607740-09-0

RL: DEV (Device component use); USES (Uses)

(host material; organic electroluminescence device showing high emission efficiency and extended service life)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)





OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)  
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2004:334022 CAPLUS Full-text  
DOCUMENT NUMBER: 140:365380  
TITLE: Organic electroluminescent device  
INVENTOR(S): Arakane, Takashi; Iwakuma, Toshihiro; Hosokawa,  
Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 81 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004034751	A1	20040422	WO 2003-JP12598	20031001
W: CN, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1551206	A1	20050706	EP 2003-751304	20031001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1703937	A	20051130	CN 2003-80101284	20031001
CN 1703937	B	20101124		
KR 1016164	B1	20110217	KR 2005-7006025	20031001
US 20060257684	A1	20061116	US 2005-529238	20050325
JP 2010161410	A	20100722	JP 2010-86846	20100405
PRIORITY APPLN. INFO.:			JP 2002-296024	A 20021009
			JP 2004-542820	A3 20031001
			WO 2003-JP12598	W 20031001

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB An organic electroluminescent device having, between a cathode and an anode, a light-emitting layer which is made of at least a phosphorescent material and a host material, has an electron injection layer arranged between the light-emitting layer and the cathode and having a junction with the light-emitting layer. The light-emitting layer has electron transport properties and the ionization potential of the host material is 5.9 eV or less. The energy gap of an electron transport material in the electron injection layer is smaller than that of the host material in the light-emitting layer, or the triplet energy of the electron transport material in the electron injection layer is smaller than that of the host material in the light-emitting layer. The organic electroluminescent device uses light emission of phosphorescence and has high luminous efficiency.

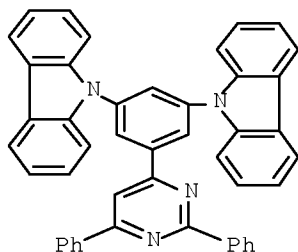
IT 607740-09-0

RL: DEV (Device component use); USES (Uses)

(electroluminescent layer host; organic electroluminescent device with phosphorescent guest in electroluminescent layer)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD  
(27 CITINGS)  
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2003:777920 CAPLUS Full-text  
DOCUMENT NUMBER: 139:299015  
TITLE: Carbazole derivative for organic electroluminescent  
devices and organic electroluminescent devices  
INVENTOR(S): Iwakuma, Toshihiro; Yamamoto, Hiroshi; Hironaka,  
Yoshio; Ikeda, Hidetsugu; Hosokawa, Chishio; Tomita,  
Seiji; Arakane, Takashi  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 68 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080760	A1	20031002	WO 2003-JP3329	20030319
W: CN, IN, JP, KR				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
EP 1489155	A1	20041222	EP 2003-712758	20030319
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
CN 1701111	A	20051123	CN 2003-806689	20030319
CN 100366703	C	20080206		
JP 4316387	B2	20090819	JP 2003-578493	20030319
KR 948700	B1	20100322	KR 2004-7014947	20030319
EP 2169028	A2	20100331	EP 2008-156371	20030319
EP 2169028	A3	20110209		
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, SE, SI, SK, TR				
TW 306890	B	20090301	TW 2003-106356	20030321
US 20040086745	A1	20040506	US 2003-393988	20030324
IN 2004CN02074	A	20060303	IN 2004-CN2074	20040917
US 20050249976	A1	20051110	US 2005-150342	20050613
JP 2009088538	A	20090423	JP 2008-286590	20081107
PRIORITY APPLN. INFO.:			JP 2002-81234	A 20020322
			JP 2002-299810	A 20021015
			EP 2003-712758	A3 20030319

JP 2003-578493 A3 20030319  
WO 2003-JP3329 W 20030319  
US 2003-393988 B1 20030324

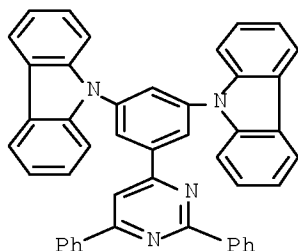
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The invention refers to a material for blue electroluminescent devices having the structure (Cz)<sub>n</sub>A or Cz(A)<sub>n</sub> [Cz = (un)substituted arylcarbazolyl or carbazoylyl alkylene; A = MpLqM'<sub>r</sub>; M,M' = (un)substituted C2-40 heteroarom. rings; L = single bond, (un)substituted C6-30 aryl or arylene, C5-30 cycloalkylene, photorefractive C2-30 heteroarom.; p,r = 0 - 2; q = 1 - 2; p + r > 1].

IT 607740-09-0P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(carbazole derivative for organic electroluminescent devices and organic electroluminescent devices)

RN 607740-09-0 CAPLUS

CN 9H-Carbazole, 9,9'-[5-(2,6-diphenyl-4-pyrimidinyl)-1,3-phenylene]bis- (CA INDEX NAME)



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> end

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF  
LOGOFF? (Y)/N/HOLD:y

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L2 18 SEA FILE=REGISTRY SSS FUL L1  
D L2 18

FILE 'REGISTRY' ENTERED AT 13:10:20 ON 28 MAR 2011

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SEL L2 18 RN  
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FILE 'CAPLUS' ENTERED AT 13:10:25 ON 28 MAR 2011

L4 21 SEA FILE=CAPLUS SPE=ON ABB=ON PLU=ON L3

SET LINE 250  
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SET LINE LOGIN  
SET DETAIL LOGIN  
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SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 13:10:52 ON 28 MAR 2011

L5            24 SEA FILE=CAPLUS SPE=ON   ABB=ON   PLU=ON   L2  
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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	163.84	367.64
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-20.88	-21.75

STN INTERNATIONAL LOGOFF AT 13:34:35 ON 28 MAR 2011